HW_14

1.Use variable to calculate % Growth in Sales Compared to Last Year

```
YoY Sales Growth % =

VAR CurrentSales = CALCULATE([Total Sales],
DATESYTD(ChocolateSales[Date]))

VAR LastYearSales = CALCULATE([Total Sales],
SAMEPERIODLASTYEAR(ChocolateSales[Date]))

RETURN

DIVIDE(CurrentSales - LastYearSales, LastYearSales, 0)
```

2.Use variable to calculate the difference between Sales Amount of current month and previous month

```
Monthly Sales Difference =

VAR CurrentMonthSales =

    CALCULATE([Total Sales],

        MONTH(ChocolateSales[Date]) = MONTH(TODAY()),

        YEAR(ChocolateSales[Date]) = YEAR(TODAY())

    )


VAR LastMonthSales =

    CALCULATE([Total Sales],

        PREVIOUSMONTH(ChocolateSales[Date])

    )
```

```
RETURN

CurrentMonthSales - LastMonthSales
```

3.Calculate total boxes shipped and average monthly boxes in one measure using VAR

```
TotalAndAvgBoxes =

VAR TotalBoxes = SUM(ChocolateSales[Boxes Shipped])

VAR TotalMonths =
DISTINCTCOUNT(MONTH(ChocolateSales[Date]))

VAR AvgBoxes = DIVIDE(TotalBoxes, TotalMonths, 0)

RETURN

"Total: " & TotalBoxes & " | Avg per Month: " & ROUND(AvgBoxes, 0)
```

4. Calculate total boxes shipped and average monthly boxes in one measure using VAR and return average monthly boxes.

```
Avg Monthly Boxes =

VAR TotalBoxes = SUM(ChocolateSales[Boxes Shipped])

VAR TotalMonths =
DISTINCTCOUNT(MONTH(ChocolateSales[Date]))

RETURN

DIVIDE(TotalBoxes, TotalMonths, 0)
```

5. Calculate growth percentage from last month.

```
Month-over-Month Growth % =
```

```
VAR CurrentMonth = CALCULATE([Total Sales],
MONTH(ChocolateSales[Date]) = MONTH(TODAY()))

VAR LastMonth = CALCULATE([Total Sales],
PREVIOUSMONTH(ChocolateSales[Date]))

RETURN

DIVIDE(CurrentMonth - LastMonth, LastMonth, 0)
```

6. Create a moving average of sales over the last 3 months.

```
Month-over-Month Growth % =

VAR CurrentMonth = CALCULATE([Total Sales],
MONTH(ChocolateSales[Date]) = MONTH(TODAY()))

VAR LastMonth = CALCULATE([Total Sales],
PREVIOUSMONTH(ChocolateSales[Date]))

RETURN

DIVIDE(CurrentMonth - LastMonth, LastMonth, 0)
```

7. Use Card to show a Dynamic Message Based on Sales Rank and YoY Performance. For each chocolate product show a message like:

"Top Performer - Sales up by X%"

"Consistent Performer"

"Needs Improvement"

Ps:(use selectedvalue, rankx, and Time Intelligence functions)

8. List Top 5 tips to optimize DAX query manually and explain why you choose.

Avaoiding Using Filter(ALL())
Reducing Calculated columns
use VAR for repeated logic
Keeping visuals minimal

9. What is the benefit of using DAX optimization tools like DAX Studio, Performance Analyzer,Tabular Editor

It helps to keep my model clean, and fast. Helps to find bottlenecks

10. **Create a flag (Yes/No) if a product is in the top 5 by total sales.Use RANKX in a variable; avoid calculating rank more than once.**

Top 5 Product Flag =

VAR ProductRank = RANKX(ALL(ChocolateSales[Product]),[Total Sales], DESC)

RETURN IF(ProductRank <= 5, "Yes", "No")